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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/132,157	08/11/98	FORBES	303.229US2

EXAMINER

MM12/0901

SCHWEGMAN LUNDBERG WOESSNER & KLUTH
P O BOX 2938
MINNEAPOLIS MN 55402

PRENTY, M

ART UNIT	PAPER NUMBER
2822	13

DATE MAILED: 09/01/99

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☑ Responsive to communication(s) filed on 8/11/99

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☑ Claim(s) 11-14 and 24-32 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
☐ Claim(s) _____ is/are allowed.
☑ Claim(s) 11-14 and 24-32 is/are rejected.
☐ Claim(s) _____ is/are objected to.
☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
☐ The specification is objected to by the Examiner.
☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.
☐ received in Application No. (Series Code/Serial Number) _____.
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☑ Notice of Reference Cited, PTO-892
☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
☐ Interview Summary, PTO-413
☐ Notice of Draftperson's Patent Drawing Review, PTO-948
☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

* U.S. GPO: 1998-404-496/40517

This Office Action is in response to the papers filed August 11, 1999.

Claims 11, 12, 24, 25, 30 and 32 are rejected under 35 U.S.C. §103 as being unpatentable over Aronowitz et al. (newly cited United States Patent 5,296,386) together with Grider et al. (newly cited United States Patent 5,818,100). Specifically, the difference between Aronowitz et al. (see Aronowitz et al's Figure 1 disclosure in particular) and the set of rejected claims is the former's channel length is not disclosed while the latter's channel length is less than 7μm. Grider et al. teaches that channel lengths have been scaled down to 0.25μm (see Grider et al. at column 1, lines 22-37). It would have been obvious to one skilled in this art to form Aronowitz et al's channel length less than 7μm as evidenced by Grider et al.. Claims 11, 12, 24, 25, 30 and 32 are thus rejected under 35 U.S.C. §103 as being unpatentable over Aronowitz et al. together with Grider et al..

Claims 13, 26, 27 and 31 are rejected under 35 U.S.C. §103 as being unpatentable over Aronowitz et al. (newly cited United States Patent 5,296,386) together with Grider et al. (newly cited United States Patent 5,818,100) and Crabbe' et al. (United States Patent 5,821,577 already of record). Specifically, the difference between the obvious Aronowitz et al. / Grider et al. transistor and the transistor recited in the set of rejected claims is that the latter's SiGe channel thickness is unknown while the former's SiGe channel thickness is "approximately 100 to 1,000 angstroms" (claims 13, 26 and 31) or "approximately 300 angstroms" (claim 27). Crabbe' et al. discloses forming SiGe channels 100 to 500 angstroms thick (see column 6, lines 17-22). It would have been further obvious to one skilled in this art to make the obvious Aronowitz et al. / Grider et al. transistor's channel 100 to 500 angstroms thick as suggested by Crabbe' et al.. Claims 13, 26, 27 and 31 are thus rejected under 35

U.S.C. §103 as being unpatentable over Aronowitz et al. together with Grider et al. and Crabbe' et al..

Claims 11, 14, 24, 25, 28, 30 and 32 are rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. (United States Patent 5,426,069 already of record) together with Grider et al. (newly cited United States Patent 5,818,100). Specifically, the difference between Selvakumar et al. (see Selvakumar et al's Figures 1-7 disclosure in particular) and the set of rejected claims is the former's channel length is 7μm while the latter's channel length is less than 7μm. Grider et al. teaches that channel lengths have been scaled down to 0.25μm (see Grider et al. at column 1, lines 22-37). It would have been obvious to one skilled in this art to form Selvakumar et al's channel length less than 7μm as evidenced by Grider et al.. Claims 11, 14, 24, 25, 28, 30 and 32 are thus rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. together with Grider et al..

Claims 13, 26, 27 and 31 are rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. (United States Patent 5,426,069 already of record) together with Grider et al. (newly cited United States Patent 5,818,100) and Crabbe' et al. (United States Patent 5,821,577 already of record). Specifically, the difference between the obvious Selvakumar et al. / Grider et al. transistor and the transistor recited in the set of rejected claims is that the latter's SiGe channel thickness is unknown while the former's SiGe channel thickness is "approximately 100 to 1,000 angstroms" (claims 13, 26 and 31) or "approximately 300 angstroms" (claim 27). Crabbe' et al. discloses forming SiGe channels 100 to 500 angstroms thick (see column 6, lines 17-22). It would have been further obvious to one skilled in this art to make the obvious Selvakumar et al. / Grider et al. transistor's channel 100 to 500

angstroms thick as suggested by Crabbe' et al.. Claims 13, 26, 27 and 31 are thus rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. together with Grider et al. and Crabbe' et al..

Claim 29 is rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. (United States Patent 5,426,069 already of record) together with Grider et al. (newly cited United States Patent 5,818,100) and Aronowitz et al. (newly cited United States Patent 5,296,386). Specifically, the difference between the obvious Selvakumar et al. / Grider et al. transistor and claim 29's transistor is they are N-type and P-type, respectively. Aronowitz et al. teaches using SiGe in both N-type and P-type transistors (see Aronowitz et al's Abstract, for example). It would have been further obvious to one skilled in this art to form the obvious Selvakumar et al. / Grider et al. transistor P-type as suggested by Aronowitz et al.. Claim 29 is thus rejected under 35 U.S.C. §103 as being unpatentable over Selvakumar et al. together with Grider et al. and Aronowitz et al..

Registered practitioners can telephone examiner Prenty at (703) 308-4939. All other parties should telephone (703) 308-0956. The fax number is (703) 308-7722.

Mark Prenty

Mark V. Prenty
Primary Examiner